

WE CLAIM:

1. In a hydraulic unit (11) for an electronically controllable brake system of a vehicle with a housing block (10), comprising at least one mounting face (12, 14) for an electronic control unit, installation chambers (20) for hydraulic connections for supplying the hydraulic unit (11) with pressure fluid, installation chambers (26, 24, 18i-k, 18a, 18b) for pump elements (50) and damping devices (22), disposed downstream of the pump elements (50) for damping pressure pulsations, and for electrically triggerable pressure buildup valves and pressure reduction valves for modulating the brake pressure at at least one wheel brake cylinder communicating with the hydraulic unit (11), the improvement wherein the installation chambers (18i, 18k) of the damping devices (22) and the installation chambers (18a-h) of the valves extend to the common mounting face (12) of the housing block (10) on which the electronic control unit can be mounted; and wherein the damping devices (22) protrude past this mounting face (12).
2. The hydraulic unit in accordance with claim 1, further comprising an inlet (30) and an outlet (32) of the damping device (22) discharging into the installation chamber (24) of the associated pump element (50); and wherein the pump element (50), in the region between the inlet (30) and the outlet (32) of the damping device (22), forms a sealing point (59) together with the wall of an installation chamber (24) of the pump element (50).
3. The hydraulic unit in accordance with claim 2, wherein the sealing point (59) is formed by a press-fit connection between the pump element (50) and the wall of its installation chamber (24).

4. The hydraulic unit in accordance with claim 3, wherein the pump element (50) has an encompassing annular rib (58), which forms the press-fit connection with the wall of the installation chamber (24).

5. The hydraulic unit in accordance with claim 4, wherein the annular rib (58) is defined on one side by an annular groove (56), into which the outlet (32) of the damping device (22) discharges.

6. The hydraulic unit in accordance with claim 5, wherein the annular rib (58) is defined, on the side opposite the annular groove (56), by a recess (54); wherein the outlet of the pump element (50) discharges outward in the region of this recess (54); and wherein the inlet (30) of the damping device (22) branches off in the region of this recess (54).

7. The hydraulic unit in accordance with claim 5, wherein the installation chambers (18n-o) for switchover valves for shifting the brake system from the normal braking mode or the anti-lock mode into the traction control mode or the vehicle dynamics control mode are provided in the housing block (10); and wherein the installation chambers (18a-d), each of one pressure buildup valve, and the installation chambers (18n-o) of a switchover valve communicate with one another through a straight pressure fluid conduit (36), the pressure fluid conduit (36) intersecting the installation chamber (24) of a pump element in the region of the annular groove (56).

8. The hydraulic unit in accordance with claim 6, wherein the installation chambers (18n-o) for switchover valves for shifting the brake system from the normal braking mode or the anti-lock mode into the traction control mode or the vehicle dynamics control mode are provided in the housing block (10); and wherein the installation chambers (18a-d), each of one pressure buildup valve, and the installation chambers (18n-o) of a switchover valve communicate with one another through a straight

pressure fluid conduit (36), the pressure fluid conduit (36) intersecting the installation chamber (24) of a pump element in the region of the annular groove (56).

9. The hydraulic unit in accordance with claim 7, wherein the pressure fluid conduit (36) connecting the installation chambers (18a-d) of a pressure buildup valve and the installation chambers (18n-o) of a switchover valve begins at a circumferential side (16a) of the housing block (10) and ends in blind-bore fashion in the interior of the housing block (10).

10. The hydraulic unit in accordance with claim 8, wherein the pressure fluid conduit (36) connecting the installation chambers (18a-d) of a pressure buildup valve and the installation chambers (18n-o) of a switchover valve begins at a circumferential side (16a) of the housing block (10) and ends in blind-bore fashion in the interior of the housing block (10).

11. The hydraulic unit in accordance with claim 1, further comprising cup-shaped elements (28) closing the installation chambers (18i-k) of the damping device (22), which cup-shaped elements are inserted by their open ends in portions into the associated installation chambers (18i-k) of the housing block (10); and positive engagement means anchoring the elements (28) to the housing block (10) with the closed end of the cup-shaped elements protruding into the interior of the mounted control unit.

12. The hydraulic unit in accordance with claim 1, wherein the installation chambers (18a-h) of the valves and the installation chambers (18i-k) of the damping device (22) extend substantially axially parallel to one another.